

**PART 6
STATEMENT OF WORK
CONTRACT NUMBER FSC 614
SOUTHERN WASTE UNITS EXCAVATION/
ON-SITE DISPOSAL FACILITY - PHASE II**

1.0 GENERAL SCOPE OF WORK:

Furnish all labor, supervision, administration, material, tools and equipment to construct the Southern Waste Units Excavation/On-Site Disposal Facility - Phase II. Work shall be performed in accordance with the drawings and specifications listed in Part 7, Technical Drawings & Specifications; Part 8, Environmental Health and Safety and Training Requirements; Part 9, Quality Requirements and provisions of this statement of work.

The Southern Waste Units (SWU) Excavation/On-Site Disposal Facility (OSDF) Phase II Base Contract includes:

- Excavation and hauling of impacted material from the SWU and stockpiles to the OSDF and placement of the material in Cell 1
- Construction of Borrow Area Haul Road and Borrow Area Management
- Excavation and hauling of Above WAC material to the OU1 Stockpile
- Hauling of impacted debris from the OSDF Material Transfer Area and placement of the debris in Cell 1
- Construction of the Cell 2 liner
- Control and management of the construction facilities

SWU/OSDF Phase II - Option A includes:

- Excavation and hauling of impacted material from the SWU to the OSDF and placement of the material in Cell 1 or 2
- Excavation and containerization of Lead Contaminated Soil
- Excavation and hauling of Above WAC material to the OU1 Stockpile
- Hauling of impacted debris from the OSDF Material Transfer Area and placement of the debris in Cell 1 or 2
- Placement of impacted material from the Sewage Treatment Plant (provided by others) in Cell 1 or 2
- Construction of the Cell 3 liner
- Borrow Area Management
- Control and management of the construction facilities

SWU/OSDF Phase II - Option B includes:

- Excavation and hauling of impacted material from the SWU to the OSDF and placement of the material in Cell 1, 2 or 3
- Hauling of impacted debris from the OSDF Material Transfer Area and placement of the debris in Cell 1, 2 or 3
- Borrow Area Management

Control and management of the construction facilities
Excavation and hauling of Above WAC material to the OU1 Stockpile

SWU/OSDF Phase II - Option C includes:

Cell 1 Cap Construction

A major element of the work included in the execution of this Statement of Work is control of fugitive dust emissions within the limits identified on the Construction Drawings. By controlling and mitigating fugitive dust emissions, the potential for the spread of contamination and personnel exposure is greatly reduced. It is the Contractor's responsibility to incorporate control of fugitive dust emissions in all aspects of the work. Refer to Section 6.1 and Exhibit "E" of this document for further requirements.

The following is a summary of the work, but does not limit the responsibility of the Contractor to construct the work in strict accordance with the Contract Documents. The format for the specific descriptions of work is as follows: Section 2.0 contains the description of work for the Base Contract. Section 3.0 contains the description of work for Option A. Section 4.0 contains the description of work for Option B. Section 5.0 contains the description of work for Option C. Within each of these sections, the work is broken down into four (4) parts: 1) General items that apply to all parts; 2) Southern Waste Units; 3) OSDF Liner Construction; and 4) OSDF Cell Construction.

2.0 BASE CONTRACT - SPECIFIC DESCRIPTION OF WORK:

2.1 Base Contract-SWU Excavation, OSDF Phase II Liner Construction and Cell Construction

2.1.1 Post-Award Documents

- A. Submission of acceptable performance and payment bonds, insurance certificates and the signed Project Labor Agreement Letter of Assent. The Letter of Assent shall be valid for the duration of the Contract (including Options, if exercised) and will only be required to be submitted and approved once.

2.1.2 General Project Submittals

- A. Submission of the Pay Item Schedule of Values, Project Schedule, and Work Plans including the Safe Work Plan specified in the Base Contract and Options. The approved Pay Item Schedule of Values for the Base Contract and Options shall be considered final. The approved Project Schedule, and Work Plans for the Base Contract shall be considered final. The Project Schedule, and Work Plans for the work covered by Options A through C shall be considered preliminary during the Base Contract period of performance. For a given Option, these items shall be finalized and resubmitted at least sixty (60) days prior to mobilization for that Option. The Contractor shall not be permitted to mobilize

for the Base Contract or Options until the required submittals have been approved by FDF.

- B. Submission of specified technical submittals and completion of required training and medical requirements as required by Part 8 - Environmental Health and Safety & Training Requirements.

2.1.3 Off-hours Dust Control Allowance

- A. Off-hours Dust Control Allowance: For controlling fugitive dust emissions during non-work periods (as defined in 6.1.C) for the Base Contract period of performance, the Contractor shall include a pay item on the Pay Item Schedule in the Base Contract proposal price.

2.1.4 Close-out Documents

- A. Submit Close-out Documents as required for the Base Contract work including but not limited to: Red-line construction drawings and specifications; field survey note books; electronic files for the survey sketches; field documentation for the management of the facilities; inspection reports, certifications and other information as required.

2.2 Base Contract - Southern Waste Units Excavation

2.2.1 Mobilization (SWU)

This mobilization shall be for activities related to Southern Waste Units Excavation.

- A. Assume control of the Support Area, including installation of the Contractor's office and support trailers, material and equipment lay down areas, equipment maintenance area, and other construction facilities.
- B. Perform preliminary survey.
- C. Extend electric service and water lines from existing tie-in points to the Contractor's facilities, as required, including related testing.

2.2.2 Site Preparation (SWU)

- A. Furnish and install the erosion and sediment control measures as required to perform excavation.
- B. Furnish and install the material and equipment at the SWU Equipment Wash Facility and at the OSDF Wheel Wash Facility.

2.2.3 Control and Management (SWU)

- A. Assume control and management of the existing surface water management and erosion and sediment controls including the temporary retention basins No. 1, 2 and 3 and the collection and transfer system, associated conveyance piping, ditches, silt fence and other components. Assume control and management of the SWU Equipment Wash Facility, the oil-water separator, the Wheel Wash Facility at the OSDF, seeded areas, the Impacted Material Haul Road, other paved and unpaved haul roads, and construction and radiological control fencing. Control and management of these facilities shall be from Authorization to Mobilize through the Base Contract period of performance.

2.2.4 Impacted Material Excavation (SWU and Stockpiles)

Survey, layout, erosion and sediment control measures required during excavation, construction of the Special Materials Transfer Area, equipment washing at the SWU equipment wash facility and at the OSDF wheel wash facility, water management during excavation, additional construction and radiological fencing, hand excavation around existing wells to be lowered, stump grinding, stabilization including temporary seeding and crusting agents, material identification and documentation and other activities required to complete the following work shall be considered incidental to the work. Handling of special material shall be considered incidental to the excavation of Impacted Material unless additional safety requirements not already required by the Contract Documents or special handling procedures (additional equipment/methods) are required by FDF.

2.2.4.1 Excavation of Unclassified Impacted Material Including Debris (SWU)

- A. Construction of Interceptor Ditch No.1 including filter fabric, erosion control blankets and dumped rock fill. Excavation, loading, hauling and unloading of the unclassified impacted material from the construction of Interceptor Ditch No. 1 shall be included in the excavation of unclassified impacted material (2.2.4.1.B).
- B. Excavation, loading and hauling of the unclassified impacted material from the Inactive Flyash Pile (IFP) and Interceptor ditches No. 1 and 2, and unloading of the material in Cell 1.
- C. Construction of Interceptor Ditch No.2 including the geomembrane liner and anchor trenches. Excavation, loading, hauling and unloading of the unclassified impacted material from the construction of Interceptor Ditch No.2 is included in the excavation of unclassified impacted material (2.2.4.1.B).

2.2.4.2 Above Waste Acceptance Criteria (WAC) Material Excavation (SWU)

- A. Excavation, loading and hauling of Above WAC material from the Inactive Flyash Pile and other areas as encountered, and unloading and stockpiling of the material at the OU1 Stockpile Area. Survey of the Above WAC excavation, water management, and other related activities shall be considered incidental to the Above WAC Material excavation.

2.2.4.3 Excavation of Impacted Material Stockpiles

- A. Excavation, loading and hauling of the material from the OSDF West Impacted Material stockpile including 6-inch excavation below the stockpile and unloading of the material in Cell 1. This material is classified as OSDF Category 1. Grading of the excavation area and seeding.

2.2.5 Removal and Packaging of Friable Presumed Asbestos Containing Material (PACM)

The Contractor shall include a crew unit cost per hour for removing friable PACM discovered during excavation, and packaging it for hauling to the OSDF. Removal and packaging of friable PACM shall be as specified in the Technical Specifications. In the Base Contract the Contractor shall include a pay item in the Pay Item Schedule. The Contractor shall obtain the signature of the Construction Manager daily to confirm hours worked each day for removal and packaging of Friable PACM. These hours shall be reconciled monthly with the invoice for payment.

2.2.6 Demobilization (SWU)

- A. Bring utilities, Contractor's trailer(s) and other similar appurtenance(s) to pre-mobilization condition. Decontaminate and remove Contractor equipment, tools and trailers from the site, turnover material that cannot be free released to FDF per the terms of the Contract.
- B. Contractor employees shall submit to final release Medical requirements in accordance with Part 8. The Contractor shall complete the Construction Contractor Termination Checklist as per Part 4 - Special Terms and Conditions, SC-24.

Demobilization associated with the SWU Excavation shall only be paid under the Base Contract if none of the options are exercised. Otherwise demobilization associated with the SWU Excavation shall be reimbursed after the completion of the last option that is exercised that includes work related to the SWU Excavation. SWU Demobilization shall be separate from OSDF Phase II Demobilization.

2.3 Base Contract - OSDF - Phase II (Liner Construction, Borrow Area Management)

2.3.1 Mobilization (OSDF)

This mobilization shall be for activities related to Liner Construction, Borrow Area Management and Cell Construction.

- A. Construction of the Contractor's Work Area, including Contractor's office and support trailers, material and equipment lay down areas, equipment maintenance areas (clean and contaminated), construction fence, radiological control fence,

and other construction facilities.

- B. Perform preliminary survey.
- C. Extend electric service and water lines from existing tie-in point(s) indicated on the construction drawings to the Contractor's facilities as required, including related testing. Extension or modification of temporary construction water facilities as required by the Contractor.

2.3.2 Site Preparation (OSDF)

- A. Furnish and install the erosion and sediment control measures.
- B. Earthwork, construction, control and management of temporary construction access roads and temporary construction haul roads including the Borrow Area Haul Road as required by the Contractor to perform the work.
- C. Demolition and excavation of a portion of the existing North Entrance Road.

2.3.3 Control and Management (OSDF)

- A. Assume control and management of existing surface water management and erosion and sediment controls including the Borrow Area Sediment Basin, OSDF Sediment Basin, ditches, silt fence and other components. Assume control and management of the OSDF Equipment Wash Facility, the OSDF Material Transfer Area, temporary construction water facilities, seeded areas, and paved and unpaved haul roads. Control and management of these facilities shall be from Authorization to Mobilize through the Base Contract period of performance.

2.3.4 Cell 2 and Intercell Berm Liner Construction (OSDF)

2.3.4.1 Cell 2 - Clay Liner

Construction of the clay liner shall include Cell excavation, obtaining clay liner material from the Cell excavation and the Borrow Area, traffic control at the Borrow Area Haul Road and existing North Entrance Road crossings, subgrade preparation, screening of clay material, hauling, placement, processing, removal of rock particles, compaction of the clay liner, Borrow Area Management, and other activities required to complete the Cell 2 liner construction. Oversized screen material and rock particles removed shall be hauled to and stockpiled at a location near the Borrow Area as determined by the Construction Manager is also included. Cell excavation shall include:

- A. Cell 2 Excavation - Excavate, stockpile, fill, fine grade and compact the Cell subgrade, at Cell 2, and the liner termination at the intercell berm between Cells 2 and 3. The existing elevation of Cell 2 shall be approximately one (1) foot above the subgrade elevation. Cell 2 shall be excavated to the subgrade elevation.

- B. Cell 3 Excavation - Excavate, stockpile, fill and fine grade Cell 3 to one foot above design subgrade.
- C. Over-excavate at geotechnical borings and compact fill to OSDF subgrade at Cell 3 and intercell berm.

2.3.4.2 Cell 2 - Horizontal Monitoring Well

- A. Furnish, install and test the horizontal monitoring well at Cell 2 including tie-in to the existing piping at Leachate Collection System (LCS)/Leachate Detection System (LDS) manholes.

2.3.4.3 Cell 2 - Primary and Secondary Liners

Cell 2 liner construction shall include construction of the liner system for Cell 2, connection to the existing liner system at the intercell berm between Cell 1 and 2, the liner system termination at the intercell berm between Cell 2 and 3 , and other activities required to complete the Cell 2 Secondary and Primary liners.

The Geocomposite Clay Liner (GCL), Geomembrane Liner (GML), and Geotextile for the construction of the Cell 2 liner will be furnished by FDF and installed by the Contractor. The following quantities of the GCL, GML and Geotextiles will be furnished by FDF for installation of the Secondary and Primary liners:

1) Secondary Liners:		Square Feet (SF)	Roll Size (W*L)
A.	GCL	290,000 SF	15.5'*150'
B.	GML	290,000 SF	15'*750"
C.	Geotextile		
I.	Cushion	290,000 SF	15'*approx. 450'
II.	Supplemental Cushion	15,000 SF	15'*approx. 450'
III.	Supplemental Cushion	22,000 SF	15'*approx. 450'
2) Primary Liners:		Square Feet (SF)	Roll Size (W*L)
A.	GCL	293,000 SF	15.5'*150'
B.	GML	293,000 SF	15'*750'
C.	Geotextile		
I.	Cushion	293,000 SF	15'*approx. 450'
II.	Supplemental Cushion	15,000 SF	15'*approx. 450'
III.	Supplemental Cushion	27,500 SF	15'*approx. 450'
IV.	Filter	293,000 SF	15'*approx. 450'
V.	Sacrificial Filter	58,000 SF	15'*approx. 450'

Contractor shall verify the above quantities, quality and integrity the of GCL, GML, and Geotextile against the quantities required for the installation of the Secondary and Primary Liners and notify the Construction Manager within thirty (30) calendar days from Notice to Proceed if these quantities shall be sufficient to complete the liner installation included in the Contract. Contractor shall submit required estimated

quantities and supporting calculations and sketches along with the required notification to the Construction Manager.

For delivery of the material furnished by FDF, the Contractor shall notify the Construction Manager thirty (30) calendar days in advance of installation. FDF will deliver the material to the Contractor's work area. Upon receipt of the material, the Contractor shall verify acceptance of the material in writing to the Construction Manager.

Secondary and Primary Liner installation shall include:

- A. Installation of the Secondary liner including GCL, GML, Geotextile, drainage layer and the piping for the Leachate Detection System, and video camera inspection of the piping.
- B. Installation of the Primary liner including GCL, GML, Geotextile, drainage layer and the piping for the Leachate Collection System, and video camera inspection of the piping.

2.3.5 Additional Excavation and Clay Fill (OSDF)

- A. The Contractor shall include excavation, stockpile, haul and clay fill (herein after called additional excavation and clay fill) of an estimated 10,000 in-place cubic yards (ICY). This excavation and clay fill shall be performed in the area of the Cell 2 excavation as directed by the Construction Manager, if unsuitable subgrade material is encountered.

2.4 Base Contract - OSDF - Phase II (Cell Construction)

2.4.1 Control and Management (OSDF)

- A. As part of the Base Contract, the Contractor shall be required to control and manage the Leachate Conveyance System from LDS manhole #1 and LCS manhole #1 to butterfly valve V-910 which is immediately north of the existing permanent lift station. Control and management of valve V-910 shall be by others. Control and manage the referenced portion of the Leachate Conveyance System from Authorization to Mobilize through the Base Contract period of performance.
- B. Control and manage the impacted runoff catchment areas in the OSDF. The catchment areas including geotextile filter shall be protected from clogging with sediment laden runoff. Management of the catchment areas include removal of sediment on the impacted material surface, and replacement of clogged filter fabric over the catchment area and replacement of clogged granular drainage material.

2.4.2 Cell 2 - One Foot Protective Layer (OSDF)

- A. Placement of a one (1) foot protective layer in Cell 2 and construction of related access ramps to Cell 2.

2.4.3 Cell 2 - Two Foot Select Impacted Material Layer Above the Protective Layer (OSDF)

- A. Placement of a two (2) foot layer of select impacted material above the protective layer in Cell 2.

2.4.4 Category 1 Material - Cell 1 (OSDF)

- A. Placement of Category 1 material in Cell 1 from all sources.

2.4.5 Category 2, 3, 4 and 5 Material (OSDF)

In addition to Category 1 through 5 impacted material excavated by the Contractor at the SWU and impacted material stockpiles, FDF will deliver Category 2 through 5 material (debris) to the Contractor at the OSDF Material Transfer Area (Transfer Area).

2.4.5.1 Category 2, 3 and 4 Material - Cell 1 (OSDF)

- A. Loading, hauling of Category 2, 3 and 4 material from the OSDF Material Transfer Area and unloading of the material in Cell 1.
- B. Placement of Category 2, 3 and 4 material (all sources) in Cell 1 including the required volume of Category 1 material.

2.4.5.2 Category 3 Material - Palletized/Bundled Material - Cell 1 (OSDF)

- A. Loading, hauling of Category 3 material (Palletized/Bundled material) from the OSDF Material Transfer Area to the OSDF, unloading and placement of that material in Cell 1 including the required volume of Category 1 material.

2.4.5.3 Category 5 Material - Friable PACM - Cell 1 (OSDF)

- A. Loading, and hauling of Category 5 material (Friable PACM) from the OSDF Material Transfer Area and SWU to the OSDF, unloading of that material in Cell 1.
- B. Placement of Category 5 material (Friable PACM, all sources) in Cell 1 including the required volume of Category 1 material.

2.4.6 Demobilization (OSDF)

This demobilization is for activities related to Liner Construction, Borrow Area Management and Cell Construction.

- A. Bring utilities, Contractor's trailer(s) and other similar appurtenance(s) to pre-

mobilization condition. Decontaminate (if required) and remove Contractor equipment, tools and trailers from the site, turnover material that cannot be free released to FDF per the terms of the contract.

Demobilization associated with the OSDF Phase II shall only be paid under the Base Contract if none of the options are exercised. Demobilization associated with the OSDF Phase II shall be reimbursed after the completion of the last option that is exercised that includes work related to the OSDF Phase II. OSDF Phase II Demobilization shall be separate from SWU Excavation Demobilization.

3.0 Option A - SPECIFIC DESCRIPTION OF WORK:

3.1 Option A - SWU Excavation/OSDF - Phase II (Liner Construction and Cell Construction)

3.1.1 Bonds and Insurance Certificates

- A. Submission of acceptable performance and payment bonds and insurance certificates.**

3.1.2 General Project Submittals

- A. Submission of the Project Schedule and Work Plans for work under Option A. These items that were preliminary during the Base Contract period of performance shall be finalized and resubmitted at least sixty (60) prior to mobilization for Option A. The Contractor shall not be permitted to mobilize for Option A until the required submittals for Option A have been approved by FDF.**
- B. Submission of specified technical submittals and completion of required training and medical requirements as required by Part 8 - Environmental Health and Safety & Training Requirements.**

3.1.3 Off-hours Dust Control Allowance

- A. Off-hours Dust Control Allowance: For controlling fugitive dust emissions during non-work periods (as defined in 6.1.C) for the Option A period of performance, the Contractor shall include a pay item on the Pay Item Schedule for Option A.**

3.1.4 Close-out Documents

- A. Submit Close-out Documents as required for the Option A work including but not limited to: Red-line construction drawings and specifications; field survey note books; electronic files for the survey sketches; field documentation for the management of the facilities; inspection reports, certifications and other information as required.**

3.2 Option A - SWU Excavation

3.2.1 Site Preparation (SWU)

- A. Furnish and install the erosion and sediment control measures as required to perform the excavation.**

3.2.2 Control and Management (SWU)

- A. Continue control and management of the existing surface water management and erosion and sediment controls including the temporary retention basins No. 1, 2 and 3 and the collection and transfer system, associated conveyance piping, ditches, silt fence and other components. Continue control and management of the SWU Equipment Wash Facility, the oil-water separator, the Wheel Wash Facility at the OSDF, seeded areas, the Impacted Material Haul Road, other paved and unpaved haul roads, and construction and radiological control fencing. Control and management of these facilities shall continue uninterrupted from the completion of the Base Contract period of performance through the Option A period of performance.**

3.2.3 Impacted Material Excavation (SWU and Stockpiles)

Survey, layout, erosion and sediment control measures required during excavation, construction of the Special Materials Transfer Area, equipment washing at the SWU equipment wash facility and at the OSDF wheel wash facility, water management during excavation, additional construction and radiological fencing, hand excavation around existing wells to be lowered, stump grinding, stabilization including temporary seeding and crusting agents, material identification and documentation and other activities required to complete the following work shall be considered incidental to the work. Handling of special material shall be considered incidental to the excavation of Impacted Material unless additional safety requirements not already required by the Contract Documents or special handling procedures (additional equipment/methods) are required by FDF.

3.2.3.1 Excavation of Unclassified Impacted Material Including Debris (SWU)

- A. Construction of Interceptor Ditch No. 3 including the geomembrane liner and anchor trenches. Excavation, loading, hauling and unloading of the unclassified impacted material from the construction of Interceptor Ditch No. 3 is included in the excavation of unclassified impacted material (3.2.3.1.B).**
- B. Excavation, loading and hauling of the unclassified impacted material from the South Field and Interceptor Ditch No.3 and unloading of the material in the OSDF.**
- C. Excavation, loading and hauling of the unclassified impacted material from the Active Flyash Pile (Top) and unloading of the material in the OSDF.**
- D. Excavation, loading and hauling of the unclassified impacted material from the**

Active Flyash Pile (Bottom) and unloading of the material in the OSDF.

3.2.3.2 Above Waste Acceptance Criteria (WAC) Material Excavation (SWU)

- A. The Contractor shall include excavation, loading and hauling of Above WAC material as encountered in the South Field and Active Flyash Pile excavation, and unloading, stockpiling and spreading of the material at the OU1 Stockpile Area. This work shall be included in the Option A Price and shall be listed as a per unit price pay item on the Pay Item Descriptions. This work shall be as directed by the Construction Manager. Survey of the Above WAC excavation, water management, and other related activities shall be considered incidental to the Above WAC Material excavation.**

3.2.3.3 Excavation of Lead Contaminated Soil (SWU)

- A. Excavation and containerization of lead contaminated and hauling it to the Lead Contaminated Soil Container Transfer Area. Construction of the Lead Contaminated Soil Container Transfer Area shall be considered incidental to this work.**

3.2.3.4 Excavation of Impacted Material Stockpiles

- A. Excavation, loading and hauling of the material from the South Field Impacted Material stockpiles and unloading of the material in the OSDF. This material is classified as Category 1.**

3.2.4 Removal and Packaging of Friable Presumed Asbestos Containing Material (PACM)

The Contractor shall include a crew unit cost per hour for removing friable PACM discovered during excavation, and packaging it for hauling to the OSDF. Removal and packaging of friable PACM shall be as specified in the Technical Specifications. In option A the Contractor shall include a pay item in the Pay Item Schedule. The Contractor shall obtain the signature of the Construction Manager daily to confirm hours worked each day for removal and packaging of Friable PACM. These hours shall be reconciled monthly with the invoice for payment.

3.3 Option A - OSDF - Phase II (Liner Construction, Borrow Area Management)

3.3.1 Relocation of Field Trailers

- A. Relocate Contractor's Field trailers from the Existing Construction Break Area to an area south of the permanent lift station. Extend electric service and water lines from existing tie-in point(s) indicated on the construction drawings to the Contractor's facilities, as required, including related testing.**

3.3.2 Site Preparation (OSDF)

- A. Furnish and install the erosion and sediment control measures.
- B. Earthwork, construction, control and management of temporary construction access roads and temporary construction haul roads including the Borrow Area Haul Road.

3.3.3 Control and Management (OSDF)

Continue control and management of existing surface water management and erosion and sediment controls including the Borrow Area Sediment Basin, OSDF Sediment Basin, ditches, silt fence and other components. Continue control and management of the OSDF Equipment Wash Facility, the OSDF Material Transfer Area, temporary construction water facilities, seeded areas and paved and unpaved haul roads. Control and management of these facilities shall continue uninterrupted from the completion of the Base Contract period of performance through the Option A period of performance.

3.3.4 Cell 3 and Intercell Berm Liner Construction (OSDF)

3.3.4.1 Cell 3 - Clay Liner

Construction of the clay liner shall include Cell excavation, obtaining clay liner material from the Cell excavation and the Borrow Area, traffic control at the Borrow Area Haul Road and existing North Entrance Road crossings, subgrade preparation, screening of clay material, hauling, placement, processing, removal of rock particles, compaction of the clay liner, Borrow Area Management, and other activities required to complete the Cell 2 liner construction. Oversized screen material and rock particles removed shall be hauled to and stockpiled at a location near the Borrow Area as determined by the Construction Manager is also included. Cell excavation shall include:

- A. Cell 3 Excavation - Excavate, stockpile, fill, fine grade and compact the Cell subgrade, at Cell 3, and the liner termination at the intercell berm between Cells 3 and 4. The existing elevation of Cell 3 shall be approximately one (1) foot above the subgrade elevation. Cell 3 shall be excavated to the subgrade elevation.

3.3.4.2 Cell 3 - Horizontal Monitoring Well

- A. Furnish, install and test the horizontal monitoring well at Cells 3 including tie-in to the existing piping at Leachate Collection System (LCS)/Leachate Detection System (LDS) manholes.

3.3.4.3 Cell 3 - Primary and Secondary Liners

Cell 3 liner construction shall include construction of the liner system for Cell 3, connection to the existing liner system at the intercell berm between Cell 2 and 3, the liner system termination at the intercell berm between Cell 3 and 4, and other

activities required to complete the Cell 3 Secondary and Primary liners.

The Geocomposite Clay Liner (GCL), Geomembrane Liner (GML), and Geotextile for the construction of the Cell 3 liner will be furnished by FDF and installed by the Contractor. The following quantities of the GCL, GML and Geotextiles will be furnished by FDF for the Secondary and Primary liners:

1) Secondary Liners:		Square Feet (SF)	Roll Size (W*L)
A.	GCL	290,000 SF	15.5'*150'
B.	GML	290,000 SF	15'*750'
C.	Geotextile		
I.	Cushion	290,000 SF	15'*approx. 450'
II.	Supplemental Cushion	15,000 SF	15'*approx. 450'
III.	Supplemental Cushion	22,000 SF	15'*approx. 450'
2) Primary Liners:		Square Feet (SF)	Roll Size (W*L)
A.	GCL	293,000 SF	15'*150'
B.	GML	293,000 SF	15'*750'
C.	Geotextile		
I.	Cushion	293,000 SF	15'*approx. 450'
II.	Supplemental Cushion	15,000 SF	15'*approx. 450'
III.	Supplemental Cushion	27,500 SF	15'*approx. 450'
IV.	Filter	293,000 SF	15'*approx. 450'
V.	Sacrificial Filter	58,000 SF	15'*approx. 450'

Contractor shall verify the above quantities, quality and integrity the of GCL, GML, and Geotextile against the quantities required for the installation of the Secondary and Primary Liners and notify the Construction Manager within thirty (30) calendar days from Notice to Proceed if these quantities shall be sufficient to complete the liner installation included in the Contract. Contractor shall submit required estimated quantities and supporting calculations and sketches along with the required notification to the Construction Manager.

For delivery of the material furnished by FDF, the Contractor shall notify the Construction Manager thirty (30) calendar days in advance of installation. FDF will deliver the material to the Contractor's work area. Upon receipt of the material, the Contractor shall verify acceptance of the material in writing to the Construction Manager.

Secondary and Primary liners include:

- A. Installation of the Secondary liner including GCL, GML, Geotextile, drainage layer and the piping for the Leachate Detection System and video camera inspection of the piping.
- B. Installation of the Primary liner including GCL, GML, Geotextile, drainage layer and the piping for the Leachate Collection System and video camera inspection

of the piping.

3.3.5 Additional Excavation and Clay Fill (OSDF)

- A. The Contractor shall include excavation, stockpile, haul and clay fill (herein after called additional excavation and clay fill) of an estimated 10,000 in-place cubic yards (ICY). This excavation and clay fill shall be performed in the area of the Cell 2 excavation as directed by the Construction Manager, if unsuitable subgrade material is encountered. This excavation and clay fill shall be performed in the area of the Cell 3 excavation as directed by the Construction Manager, if unsuitable subgrade material is encountered.**

3.4 Option A - OSDF - Phase II (Cell Construction)

3.4.1 Control and Management

- A. As part of Option A, the Contractor shall be required to control and manage the Leachate Conveyance System from LDS manhole #1 and LCS manhole #1 to butterfly valve V-910 which is immediately north of the existing permanent lift station. Control and management of V-910 by others. Control and management of the referenced portion of the Leachate Conveyance System shall continue uninterrupted from the completion of the Base Contract period of performance through the Option A period of performance.**
- B. Control and manage the impacted runoff catchment areas in the OSDF. The catchment areas including geotextile filter shall be protected from clogging with sediment laden runoff. Management of the catchment areas include removal of sediment on the impacted material surface, and replacement of clogged filter fabric over the catchment area and replacement of clogged granular drainage material.**

3.4.2 Cell 3 - One-Foot Protective Layer (OSDF)

- A. Placement of a one (1) foot protective layer in Cell 3.**

3.4.3 Cell 2 - Two Foot Select Impacted Material Layer Above the Protective Layer (OSDF)

- A. Placement of a two (2) foot layer of select impacted material above the protective layer in Cell 3.**

3.4.4 Category 1 Material (OSDF)

- A. Placement of Category 1 material in Cell 1 or 2 from all sources including SWU Excavation and impacted material provided by others from the Sewage Treatment Plant (STP) Excavation.**

3.4.5 Category 2, 3, 4 and 5 Material (OSDF)

In addition to Category 1 through 5 impacted material excavated by the Contractor at the SWU and impacted material stockpiles, FDF will deliver Category 2 through 5 material (debris) to the Contractor at the OSDF Material Transfer Area (Transfer Area).

3.4.5.1 Category 2, 3 and 4 Material (OSDF)

- A. Loading and hauling of Category 2, 3 and 4 material from the OSDF Material Transfer Area and unloading of the material in Cell 1.
- B. Placement of Category 2, 3 and 4 material (all sources) in Cell 1 or 2 including the required volume of Category 1 material.

3.4.5.2 Category 3 Material - Palletized/Bundled Material (OSDF)

- A. Loading, hauling of Category 3 material (Palletized/Bundled Material) from the OSDF Material Transfer Area to the OSDF, unloading and placement of that material in Cell 1 including the required volume of Category 1 material.

3.4.5.3 Category 5 Material - Friable PACM (OSDF)

- A. Loading, and hauling of Category 5 material (Friable PACM) from the OSDF Material Transfer Area and SWU to the OSDF, unloading of that material in Cell 1.
- B. Placement of Category 5 material (Friable PACM, all sources) in Cell 1 including the required volume of Category 1 material.

3.4.6 Three-foot Select Impacted Material Layer Below the Contouring Layer (OSDF)

- A. Placement of a three (3) foot layer of select impacted material layer under the contouring layer.

3.4.7 Cell 1 - One-foot Contouring Layer - (OSDF)

- A. Placement of a one (1) foot contouring layer.

4.0 Option B - SPECIFIC DESCRIPTION OF WORK

4.1 SWU Excavation/OSDF - Phase II (Liner and Cell Construction)

4.1.1 Bonds and Insurance Certificates

- A. Submission of acceptable performance and payment bonds and insurance certificates.

4.1.2 General Project Submittals

- A. Submission of the Project Schedule and Work Plans for work under Option B. These items that were preliminary during the Base Contract period of performance shall be finalized and resubmitted at least sixty (60) prior to mobilization for Option B. The Contractor shall not be permitted to mobilize for Option B until the required submittals for Option B have been approved by FDF.
- B. Submission of specified technical submittals and completion of required training and medical requirements as required by Part 8 - Environmental Health and Safety & Training Requirements.

4.1.3 Off-hours Dust Control Allowance

- A. Off-hours Dust Control Allowance: For controlling fugitive dust emissions during non-work periods (as defined in 6.1.C) for the Option B period of performance, the Contractor shall include a pay item on the Pay Item Schedule for Option B.

4.1.4 Close-out Documents

- A. Submit Close-out Documents as required for the Option B work including but not limited to: Red-line construction drawings and specifications; field survey note books; electronic files for the survey sketches; field documentation for the management of the facilities; inspection reports, certifications and other information as required.

4.2 Option B - Southern Waste Units Excavation

4.2.1 Site Preparation (SWU)

- A. Furnish and install the erosion and sediment control measures as required to perform excavation.

4.2.2 Control and Management (SWU)

- A. Continue control and management of the existing surface water management and erosion and sediment controls including the temporary retention basins No. 1, 2 and 3 and the collection and transfer system, associated conveyance piping, ditches, silt fence and other components. Continue control and management of the SWU Equipment Wash Facility, the oil-water separator, the Wheel Wash Facility at the OSDF, seeded areas, the Impacted Material Haul Road, other paved and unpaved haul roads, and construction and radiological control fencing. Control and management of these facilities shall continue uninterrupted from the completion of the Option A period of performance through the Option B period of performance.

4.2.3 Impacted Material Excavation (SWU and Stockpiles)

Survey, layout, erosion and sediment control measures required during excavation,

construction of the Special Materials Transfer Area, equipment washing at the SWU equipment wash facility and at the OSDF wheel wash facility, water management during excavation, additional construction and radiological fencing, hand excavation around existing wells to be lowered, stump grinding, stabilization including temporary seeding and crusting agents, material identification and documentation and other activities required to complete the following work shall be considered incidental to the work. Handling of special material shall be considered incidental to the excavation of Impacted Material unless additional safety requirements not already required by the Contract Documents or special handling procedures (additional equipment/methods) are required by FDF.

4.2.3.1 Excavation of Unclassified Impacted Material

- A. Excavation, loading and hauling of the unclassified impacted material from the South Field and unloading of the material in the OSDF.**

4.2.3.2 Above Waste Acceptance Criteria (WAC) Material Excavation (SWU)

- A. The Contractor shall include excavation, loading and hauling of Above WAC material as encountered in the South Field and Active Flyash Pile excavation, and unloading, stockpiling and spreading of the material at the OU1 Stockpile Area. This work shall be included in the Option A Price and shall be listed as a per unit price pay item on the Pay Item Descriptions. This work shall be as directed by the Construction Manager. Survey of the Above WAC excavation, water management, and other related activities shall be considered incidental to the Above WAC Material excavation.**

4.2.4 Removal and Packaging of Friable Presumed Asbestos Containing Material (PACM)

The Contractor shall include a crew unit cost per hour for removing friable PACM discovered during excavation, and packaging it for hauling to the OSDF. Removal and packaging of friable PACM shall be as specified in the Technical Specifications. In Option B the Contractor shall include a pay item in the Pay Item Schedule. The Contractor shall obtain the signature of the Construction Manager daily to confirm hours worked each day for removal and packaging of Friable PACM. These hours shall be reconciled monthly with the invoice for payment.

4.3 Option B - OSDF - Phase II (Liner Construction)

Continue control and management of existing surface water management and erosion and sediment controls including the Borrow Area Sediment Basin, OSDF Sediment Basin, ditches, silt fence and other components. Continue control and management of the OSDF Equipment Wash Facility, the OSDF Material Transfer Area, temporary construction water facilities, seeded areas and paved and unpaved haul roads. Control and management of these facilities shall continue uninterrupted from the completion of the Option A period of performance through the Option B period of performance.

4.4 Option B - OSDF - Phase II (Cell Construction)

4.4.1 Control and Management

- A. As part of Option B, the Contractor shall be required to control and manage the Leachate Conveyance System from LDS manhole #1 and LCS manhole #1 to butterfly valve V-910 which is immediately north of the existing permanent lift station. Control and management of valve V-910 shall be by others. Control and management of the referenced portion of the Leachate Conveyance System shall continue uninterrupted from the completion of the Option A period of performance through the Option B period of performance.**
- B. Control and manage the impacted runoff catchment areas in the OSDF. The catchment areas including geotextile filter shall be protected from clogging with sediment laden runoff. Management of the catchment areas include removal of sediment on the impacted material surface, and replacement of clogged filter fabric over the catchment area and replacement of clogged granular drainage material.**

4.4.2 Category 1 Material (OSDF)

- A. Placement of Category 1 material in Cell 1 or 2 from all sources.**

4.4.3 Category 2, 3, 4 and 5 Material (OSDF)

In addition to Category 1 through 5 impacted material excavated by the Contractor at the SWU and impacted material stockpiles, FDF will deliver Category 2 through 5 material (debris) to the Contractor at the OSDF Material Transfer Area (Transfer Area).

4.4.3.1 Category 2, 3 and 4 Material (OSDF)

- A. Loading and hauling of Category 2, 3 and 4 material from the OSDF Material Transfer Area and unloading of the material in Cell 1.**
- B. Placement of Category 2, 3 and 4 material (all sources) in Cell 1 or 2 including the required volume of Category 1 material.**

4.4.3.2 Category 3 Material - Palletized/Bundled Material (OSDF)

- A. Loading, hauling of Category 3 material (Palletized/Bundled material) from the OSDF Material Transfer Area to the OSDF, unloading and placement of that material in Cell 1 including the required volume of Category 1 material.**

4.4.3.3 Category 5 Material - PACM (OSDF)

- A. Loading, and hauling of Category 5 material (Friable PACM) from the OSDF Material Transfer Area and SWU to the OSDF, unloading of that material in Cell**

1.

- B. Placement of Category 5 material (Friable PACM, all sources) in Cell 1 or 2 including the required volume of Category 1 material.

5.0 Option C - SPECIFIC DESCRIPTION OF WORK:

5.1 Cell 1 - Cap Construction

5.1.1 Site Preparation (OSDF)

- A. Furnish and install the erosion and sediment control measures.
- B. Earthwork, construction, control and management of temporary construction access roads and temporary construction haul roads including the Borrow Area Haul Road.

5.1.2 Cell 1 Cap Construction (OSDF)

The Geocomposite Clay Liner (GCL), Geomembrane Liner (GML), and Geotextile material for the Cell 1 cap will be furnished by FDF and installed by the Contractor.

The following quantities of the GCL, GML and Geotextiles will be furnished by FDF for the Cell 1 Cap Construction:

1) Cell 1 Cap Construction:	Square Feet (SF)	Roll Size (W*L)
A. GCL	313,000 SF	15.5'*150'
B. GML	313,000 SF	15'*750'
C. Geotextile		
I. Filter	313,000 SF	15'*approx. 450'
II. Sacrificial Cushion	41,000 SF	15'*approx. 450'

Contractor shall verify the above quantities, quality and integrity the of GCL, GML, and Geotextile against the quantities required for the installation of the Secondary and Primary Liners and notify the Construction Manager within thirty (30) calendar days from Notice to Proceed if these quantities shall be sufficient to complete the liner installation included in the Contract. Contractor shall submit required estimated quantities and supporting calculations and sketches along with the required notification to the Construction Manager.

For delivery of the material furnished by FDF, the Contractor shall notify the Construction Manager thirty (30) calendar days in advance of installation. FDF will deliver the material to the Contractor's work area. Upon receipt of the material, the Contractor shall verify acceptance of the material in writing to the Construction Manager.

Cap construction includes but is not limited to:

- A. Construction of the compacted clay cap including subgrade preparation, excavation of the required clay from the Borrow Area, screening, hauling, placement, processing, removal of rock particles, compaction of the clay cap and Borrow Area Management.
- B. Installation of the GCL, GML, Geotextile material and the drainage layer.
- C. Installation of the biointrusion and granular filter layer.
- D. Placement of the vegetative soil layer, topsoil, temporary erosion mat and permanent vegetation.

6.0 SPECIAL REQUIREMENTS

The following Special Requirement apply to the Base Contract and all Options

6.1 Control of Fugitive Dust Emissions (Dust Control)

- A. The Contractor shall control fugitive dust emission and submit a Fugitive Dust Control Plan in accordance with Exhibit "E" of this Part 6. The effort for controlling fugitive dust emission during regular work period shall be considered incidental to all field activities. "Regular work periods" include any time the Contractor or a Subcontractor are performing construction activities on site.
- B. Work stoppage in case of excessive and/or visible dust: The number or type of dust suppression equipment in operation and Fluor Daniel Fernald's Compliance Review of the Fugitive Dust Control Plan shall not prevent FDF from stopping work if there is visible dust. The Contractor shall monitor construction activities and shall also stop work if there is visible dust. The Contractor shall be responsible for any shutdown by FDF due to visible dust.
- C. "Non-work periods" are defined as hours when neither the Contractor nor a subcontractor are performing construction activities on site. Upon observing visible dust within the Contractor's Work Area (as shown on the drawings) during non-working periods Fluor Daniel Fernald Site personnel shall notify the Construction Manager who will in turn notify the Contractor.

6.2 Radiological Isotope of Concern

- A. Uranium contamination, specifically U-238, is the radiological contaminant and isotope of concern for occupational exposure control purposes for the SWU Excavation OSDF Phase II Cell Construction. All radiological control requirements shall be implemented with the purpose of maintaining radiological levels and personnel exposures below the regulatory limits, applicable to uranium, for this work. In addition, the As Low As Reasonably Achievable (ALARA) process shall be used to evaluate work on the project to maintain levels and exposures as far

below the limits as is reasonably achievable.

6.3 Contractor Safe Work Plan:

The Contractor shall submit a Safe Work Plan (SWP) for each task to be performed. This can be one plan (SWP) with sections on each task or a series of plans. The Safe Work Plan must be modified/updated as needed to accurately reflect the current work activities and planned work. Changes or modifications shall be submitted for FDF review and approval. The Contractor shall follow the format specified in ACR-002 Contractor Safe Work Plan Format Requirements found in Contract Part 7 -Technical Drawings and Specifications.

Submittal of the Safe Work Plan(s) shall be in accordance with Contractors Submittal Register Exhibit "H".

6.4 Miscellaneous Special Requirements

- A. At least eight (8) two-way radios (including chargers and other appurtenances required for operation), Motorola MTX Series Model B7, shall be furnished by the Contractor for this Contract. Two shall be dedicated for use by the S&H Representatives. The Contractor is responsible for programming per FDF specifications by Mobilcomm, Cincinnati, Ohio (phone 742-5555). The Contractor shall be responsible for furnishing any other radios needed for the performance of their work. Frequencies other than the FDF frequencies are not permitted on site.

The Contractor shall submit a request to FDF for radio frequency activation, the request all identify the number of radio's to be activated and serial number of each radio. At the completion on the contract FDF will have the radio frequency for each of the radio's deactivated.

- B. Contractor shall provide the following full-time Supervision at the project site as a minimum for this contract.

Project Manager
General Superintendent
SWU Area Superintendent / Construction Engineer
OSDF Area Superintendent / Construction Engineer
Project Engineer
SWU Safety Representative
OSDF Safety Representative
SWU/OSDF Quality Assurance Manager
SWU/OSDF QC Inspector

- C. FDF reserves the right to stop the work if the Contractor does not have an approved S&H Representative present at the work site. The Contractor shall be responsible for costs associated with work stoppage that results from not having

an approved S&H Representative at the work site.

- D. All Contractor employees who will be performing excavation or who will be working in the area of excavations, including supervisors, shall attend a one hour briefing on the unexpected discovery of cultural resources. The briefing shall be presented after mobilization but prior to excavation by FDF Cultural Resources Management. The Contractor shall brief new employees who will be performing excavation or who will be working in the area of excavations of the requirements
- E. The Contractor shall allow for infrequent interruptions during the excavation of the Southern Waste Units. These interruptions will be considered a delay if the interruptions exceed one hour total work time during a work day. The Contractor may submit requests for adjustment for such a delay in excess of one hour. FDF support, oversight and monitoring activities, such as the monitoring of each excavation lift, quality control and assurance inspections, and other related activities shall not be considered work stoppage or work interruptions. The Construction Manager will confirm the delay times on a daily basis as noted in the Contractor's daily report. The costs for delays will apply only to equipment and personnel affected at the time the delay takes place. Equipment costs will be based on the latest edition of the Construction Equipment Ownership and Operation Expense Schedule, Region II, manual of the United States Army Corps of Engineers or prorated rental rates for rented equipment. Labor costs will be reimbursed at the rate to exclude overhead and profit. Delays will be reconciled monthly with the current invoice.

The Contractor shall include a pay item in the Pay Item Schedule for "Work Stoppage" and invoice, as part of the monthly invoices, the agreed cost of "Work Stoppage in accordance with Part 4, Special Terms and Conditions. Copies of the FDF Construction Manager's sign confirmation of the work stoppage must accompany the monthly invoice.
- F. The Contractor shall be required to provide a dumpster(s) for use during this project. It shall be stationed at the work area in an un-controlled zone. The dumpster(s) shall be used for the disposal of non-contaminated construction waste that the Contractor generates on a daily basis. The Contractor shall be responsible for having the dumpster(s) delivered, removed, and emptied.
- G. Provide equipment, material and personnel (full-time) to manage the wheel wash facilities and the Equipment Wash Facility at the OSDF and the Equipment Wash Facility at the SWU during SWU Excavation and Cell Construction as specified. The Contractor shall be responsible to perform Equipment Washing on vehicles of DOE, FDF, CQC consultant and others as directed by the Construction Manager during scheduled work hours.
- H. Traffic Control during Borrow Area Management, at the existing road crossing including the North Entrance Road and Borrow Area Haul Road Crossing, shall be in accordance with the technical specifications for the Southern Waste Units.

The Contractor shall not close the North Entrance Road before 8:30 **AM** and between 3:30 and 5:00 **PM**. The Contractor shall provide two (2) flaggers or an automatic traffic light to control traffic at the crossing.

- I. Provide equipment, material and personnel to manage leachate and the impacted runoff catchment area in the OSDF active cells. Impacted runoff that has infiltrated into the leachate collection system shall be directed to the leachate transmission system. Impacted runoff collecting on the surface of the impacted runoff catchment area may be pumped to the former production area stormwater collection system. The gravel and filter geotextile in the impacted runoff catchment area shall be managed to prevent clogging.
- J. **The Equipment Wash Pad for the Southern Waste Units (SWUs) will be built by others prior to the Contractor mobilizing. Key features of the Equipment Wash Pad that will be in place include:**

Three post hydrants for water supply
Drain trenches parallel to the flow of traffic
Reinforced concrete base slab 10" thick
Splash screens on sides
Oil/water separator and 6" diameter drain/discharge line

7.0 EQUIPMENT OR FACILITIES FURNISHED BY FLUOR DANIEL FERNALD

7.1 Retention Basin Collection and Transfer System (SWU)

- A. Control and management of the retention basin collection and transfer system from the retention basins to the surface water retention basin (SWRB). The Contractor shall control and manage the retention basin collection and transfer system in accordance with the System Plan for Wastewater Collection and Transfer for the SWU, Rev.0, May 1997.
- B. The Contractor shall provide Inspection Reports documenting observation and conditions of the items in the tables below. These reports shall be submitted to the Construction Manager within three (3) working days of the inspection. The required O & M manuals shall be turned over to the Contractor after award.

Report	Frequency
Maintenance and Calibration	
Pump Inspection Report	Annually
Piping Inspection Report	Annually
Valve System Inspection Report	Annually
Other Monitoring	

Check sumps for Sediment *	Monthly
----------------------------	---------

* Sediment to be removed and transferred to the OSDF if it meets OSDF Waste Acceptance Criteria. FDF will monitor for OSDF Waste Acceptance Criteria.

Item	Schedule
Pumps	Inspect annually per FDF MWI PCP100
Control Panel	Annually
Main Disconnect Switch and Starter	Inspect monthly for moisture
Indicating Lights	"push-to-test" monthly
Motor Starters and Controls	Annually
Main Disconnect Switch	Monthly
Water Level Probe Calibration	Semi-annually

7.2 Leachate Conveyance System (OSDF)

- A. Control and manage the Leachate Conveyance System from LDS MH-1 and LCS MH-1 to Butterfly Valve V-910 which is immediately north of the existing permanent lift station. Control and Management of the valve shall be by others. The Contractor is also responsible for control and management of the Leachate Collection and Leachate Detection piping and horizontal monitoring well from each LDS and LCS manhole into the OSDF per tables 3.1, 3.2 and 3.3 of the Systems Plan for the On-Site Disposal Facility Leachate Conveyance System, Rev. 0, October, 1996. Training for the control and management of the Leachate Conveyance System shall be provided by FDF.
- B. The Contractor shall provide Inspection Reports documenting observation and conditions of the items in the table below. These reports shall be submitted to the Construction Manager within three (3) working days of the inspection. The required O & M manuals shall be turned over to the Contractor after award.

Item	Inspection	Maintenance
LDS/LCS Manholes and alarm panels, including Solar Electric Power System, clean-outs and leachate conveyance piping	Monthly	-
Valves within each LCS and LDS manhole	Monthly	-

7.3 Fluor Daniel Fernald will furnish the following services:

<u>Description</u>	<u>Notification Time Required</u>
• Radiological Monitoring (Survey)	24 hours
• Environmental Monitoring	24 hours
• Radiological Air Monitoring	24 hours
• Emergency Service	N/A
• Safety Oversight	24 hours
• Fire & Safety Monitoring	24 hours
• Industrial Hygiene Monitoring	24 hours
• Medical Services	Reference Part 8

8.0 EQUIPMENT FURNISHED BY THE CONTRACTOR:

The Contractor shall furnish material and/or equipment required to perform the work as specified in this document, including those items identified below:

- 8.1 HEPA Vacuum Cleaners:** The Contractor shall provide a minimum of one HEPA Vacuum Cleaner for PACM related work at the Southern Waste Units and one HEPA Vacuum cleaner for PACM related work at the OSDF, and enough to replace those that are being serviced for filter integrity testing, and all attachments required to perform work under this contract. Refer to Part 7, Specification Section 02210. When the HEPA Vacuum Cleaners are no longer required to perform work, the Contractor shall decontaminate the vacuum cleaner and turn over all equipment to FDF at no additional cost to FDF. The Contractor shall also provide Operation and Maintenance manuals, maintenance records, and purchase records.
- 8.2 Effluent Removal Equipment:** The Contractor shall furnish the effluent pumps, contaminant filters, hose and other appurtenances as required to execute the work specified in the Technical Specification. When the equipment is no longer required to perform work, the Contractor shall decontaminate the equipment and turn over all equipment to FDF at no additional cost to FDF. The Contractor shall also provide Operation and Maintenance manuals, maintenance records, and purchase records.
- 8.3** The Contractor shall complete and submit a list all of the equipment that it will furnish for this project utilizing the "Contractor Furnished Equipment Turnover Checklist" provided in Exhibit "I".

9.0 INTERFACES AND RESTRAINTS:

9.1 INTERFACES WITH FDF

- A.** The Contractor will interface with various FDF (and other) organizations through the Construction Manager as required, or at points and frequency as shown, and must allow for resulting delays as identified in the following Table 9-1.

TABLE 9-1

TASK	FREQUENCY	APPROXIMATE DURATION	RESPONSIBLE GROUP
Respirator Issue	As Required	5 min.	Rad Safety
Tool & Equipment Entry Inspection including Vendor Service trucks	Per Delivery	1.5 hrs.	FDF Health and Safety
Confined Space Monitoring	Daily	0.5 hrs.	FDF Health and Safety
Delivery of Washable PPE	Daily	NA	FDF Construction Coordinator
Exit from Controlled Area - tools, equipment and material release monitoring (per group of tools or materials, or piece of equipment)	As Required	Up to 1.5 hours	Rad Safety
Exit from Contamination Area - tools, equipment and material release monitoring (depends on size/amount of tools, material, or equipment, level of contamination, and amount of decontamination required)	As Required	Up to five (5) days	Rad Safety

- NOTES:**
- 1) Drivers must be escorted unless they meet the minimum training requirements as outlined in Activity 1 of the Environmental Health and Safety and Training Requirements Matrices in Part 8.
 - 2) If equipment or material is released from a Contamination Area to a Controlled Area, the equipment or material must exit the Controlled Area in less than 24 hours or it must be resurveyed for release from the Controlled Area (up to 1.5 hours)
 - 3) Tool and equipment entry inspection also requires the Contractor to inform of previous use at another radiological facility and, if so, a radiological survey must be performed on the tools or equipment. If surveys indicate contamination above the limits applicable to the site, the items may not enter the site and must be controlled until the problem is corrected.
 - 4) Up to 5 days for removal of large pieces of equipment from site. This is based on the Contractor's level of effort and coordination (with FDF/Radiological Control) put into the decontamination of the equipment. Prior notification is required of the intent to remove equipment or materials

from site to permit coordinating the necessary radiological support.

- A.** Fluor Daniel Fernald will be employing other Contractors on other projects that will interface with this contract. The Contractor will be required to coordinate work activities at the points of interface with these Contractors. Coordination will be done through the Construction Manager.
- B.** Fluor Daniel Fernald will be employing a separate Contractor to excavate and haul Category 1 impacted material from the existing Sewage Treatment Plant (STP) (located to the southeast of the OSDF) to the OSDF. The SWU Excavation/ OSDF Phase II Contractor shall direct the Contractor hauling the excavation impacted material from STP where to unload the Category 1 Impacted Material in Cell 1 or Cell 2. The SWU Excavation/ OSDF Phase II Contractor shall place the material as part of section 3.4.4 of this Part 6. The quantity of this material is included in the scheduled quantities for this Pay Item in the **Exhibit "B"** - Pay Item Description - Option A.

9.2 Delivery of Contractor Furnished Material and Equipment

- A.** All deliveries to the Contractor shall be marked with the Contractor's name and Fluor Daniel Fernald contract number. All deliveries to the Contractor should be directed to the Contractor's Work Area. Should a common carrier or vendor delivery for the Contractor arrive at the FEMP Main Gate, Fluor Daniel Fernald will notify the Contractor by radio or phone. It is the Contractor's responsibility to promptly send a representative to the main gate within 30 minutes of notification to coordinate the delivery.

NOTE: Contractor shall provide trained personnel to serve as escorts and coordinate the dates and times that escorts will be required. Escorts are to be RAD I trained to enter Controlled Area and RAD II trained to enter Contamination Area.

9.3 RESTRAINTS

- A.** Parking shall be prohibited along the North Entrance Road. Parking will be available in the Fluor Daniel Fernald South or East Parking Lots. Transportation of personnel or visitors from the Fluor Daniel Fernald lots is the responsibility of the Contractor.
- B.** The Contractor shall maintain the exhaust system of vehicles and equipment to protect against excessive noise and air pollution in compliance with the applicable site, local, state and federal regulations. The most stringent shall apply.
- C.** The Contractor shall coordinate construction activities with the Construction Manager to avoid conflicts and unnecessary delays in construction.
- D.** The Contractor shall be responsible for preventing damage to adjacent structures, fences, utilities, trees, etc. while performing work.

- E. The Contractor shall take extra precaution due to heavy vehicular traffic along the North Entrance Road during the Plant starting and quitting time periods from 6:00 AM - 8:00 AM and 3:30 PM - 5:30 PM.
- F. Speed limits in the Contractor's Work Area: 15 MPH paved Impacted Material Haul Road; 10 MPH unpaved areas or excavation areas.
- G. The Contractor shall only use equipment and machinery with enclosed cabs when performing work in a Contamination Area.
- H. The Borrow Area will not be available to the Contractor until July 1, 1998. No work may be performed in that area until that date.

10.0 TEMPORARY FACILITIES AND UTILITIES:

- 10.1 The Contractor will be given access, without charge, to limited electrical, and water services in the vicinity of their work site. The quantities and characteristics of these utilities will be limited to that which is available from existing outlets in the following locations:

Power: 600 Amp Phase: 3 Volt: 480 V is available at a point source located in a panel. The location of the panels are identified on the construction drawings.

Non-Potable Water: Water lines available at a location identified on the construction drawings. The Contractor shall be responsible for maintaining these lines during the project including cold weather protection during the winter

- 10.2 FDF will provide 2 telephone lines and a facsimile line to the Contractors office trailer. This service includes two telephones and telephone service. Only FDF telephone equipment shall be used at the site, additional telephone equipment will be made available at the Contractors cost upon request. Additional inside wiring required by the Contractors will be furnished by FDF at a cost to the Contractor. Communications services may be suspended if misused.

- 10.3 The Contractor shall be required to furnish all drinking water except at the drinking fountain in the rad access trailer. Locations for drinking will be submitted to FDF in accordance with Part 8, Section B 3.3.

Portable Toilet Facilities: Provided and managed by the Contractor

Portable Hand Wash Facilities: Provided and managed by the Contractor

- 10.4 The Contractor may bring temporary offices, tool trailers, etc., on site for use during performance of the Contract. The Contractor's office facilities at the OSDF shall be located in the Construction Administration Area. During the Base Contract **the Contractor** may locate Field trailers in the existing Construction Break Area. Following completion of the Base Contract and prior to Option A, the Contractor shall relocate these Field trailers to an area south of the permanent lift station. The Field trailers can remain at this location for the remaining periods of performance of any exercised

options. During the Base Contract and through the periods of performance of any exercised option, the Contractors office facilities at the SWU shall be in the support area.

Tool trailers and other temporary facilities shall be located in the Contractor's Work Area. The Contractor shall submit the number, type, size and a sketch of the proposed location of each facility for approval by FDF prior to mobilization. These temporary facilities shall meet the requirements outlined in Part 7, Administrative Contract Requirements ACR-006.

- 10.5 Temporary heating, if needed, shall be conducted in strict accordance with Part 8 - Environmental Health and Safety & Training Requirements, Section B.5.4. The Contractor shall provide all temporary heat and/or heating equipment required for performance of the contract. Fuel heating systems require 24 hour coverage by the Contractor.
- 10.6 Water Usage - Any water source greater than 50 PSIG shall be regulated by the Contractor. The source shall be regulated so it does not exceed 50 PSIG. Back flow prevention valves shall be required for each connection to FEMP potable water systems. Water hoses and pipelines shall be routed away from traffic areas and properly protected from accidental damage and frost. Hoses, pipes and valves shall be pressure rated and tested for their working pressure as recommended by the AWWA.
- 10.7 In the event the Contractor fails to restore the item or facility to as good as new condition as noted herein, Fluor Daniel Fernald may, at its discretion, arrange to have the necessary repairs or replacement performed by others and the Contractor shall be financially responsible for such costs. Determination of what constitutes normal wear shall rest with Fluor Daniel Fernald. Fluor Daniel Fernald may reject the Contractor's request if, in Fluor Daniel Fernald's opinion, use will be detrimental to the interests of Fluor Daniel Fernald.
- 10.8 The Contractor shall be responsible to provide a permit board/posting area for items the Contractor is responsible to post and for Fluor Daniel Fernald generated permits and postings (eg. General Work Permit, Radiation Work Permit, Safety Documents).
- 11.0 SITE LOCATION, ACCESS, LAY DOWN AREAS AND LIMITS OF CONSTRUCTION AREA:
 - 11.1 The job-site location and access to the job-site are shown on the construction drawings.
 - 11.2 The FDF address is:

<p style="text-align: center;">Mailing</p> <p>Fluor Daniel Fernald Attn: _____ Mail Stop 44 P. O. Box 398704 Cincinnati, OH 45239-8704</p>	<p style="text-align: center;">Shipping</p> <p>Fluor Daniel Fernald Attn: _____ 7400 Willey Road Fernald, OH 45030</p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------

11.3 Contractor's activities shall be limited to the construction boundaries shown on the construction drawings.

11.4 Contractor storage areas are shown on the construction drawings.

11.5 The Contractor shall install and manage throughout the period of performance of this Contract, temporary barriers (minimum - signs and orange snow fence) around the construction work area to control access. The barriers must be mounted on "T" posts, the use of rebar is not permitted. Signs must be in accordance with Part 8 - Environmental Health and Safety & Training Requirements, Section B.17.0

11.6 The Contractor shall install radiological Contamination Area fencing (yellow snow fence) around the work area as shown on the construction drawings.

12.0 PAY ITEM DESCRIPTIONS:

12.1 The Pay Item Descriptions as defined in Exhibits "A" through "D" of this part, describe activities for which the Contractor shall report progress and use for invoicing.

12.2 Within 10 calendar days after Notice to Proceed, the Contractor shall submit a pay item schedule in accordance with the contract documents. The value shall correspond to the descriptions of the activities in the Pay Item Description including profit, overhead, insurance, HEPA vacuums, training and submittal documents not specifically listed as a pay item, shall be allocated to each pay item proportional to its value. FDF will review each pay item value to ensure that the value is consistent with the contract documents. Pay item values not found acceptable shall be revised to those which can be approved by FDF. Payments cannot be made until FDF approves the pay item values.

13.0 CONTRACTOR'S PROJECT SCHEDULE:

The Contractor's Project Schedule shall be a Critical Path Method (CPM) Schedule with two levels that clearly identify all logic ties, and project critical path from Notice to Proceed through project completion. The first level being at the Pay Item level (Pay Item Layout) and the second level at the activity level (Detailed Layout). Activities will roll up to support the Pay Items. Critical submittals shall be addressed in this schedule.

The schedule shall be submitted for compliance review within ten (10) calendar days

after Notice to Proceed. The initial Contractor's Project Schedule, once approved by FDF, will be known as the Baseline Schedule. This Schedule will be used for comparison with the updated monthly project schedule and shall not be revised without concurrence from FDF.

13.1 Schedule Layouts:

Pay Item Layout

The Pay Item Layout is a roll up of the Contractor's Detailed Layout by Pay Item. This layout will only contain Pay Item Activities sorted by Early Start Dates. The percent complete of these Pay Items will be the basis for determining percent complete and dollar value earned on the monthly submitted invoice.

Detailed Layout

This schedule layout will show activities and provide the ability to: analyze schedule performance, analyze trends, identify recovery/corrective action plans, identify opportunities for improvement and forecast future achievements. Activities are defined as schedule elements of sufficient detail to adequately evaluate percent of activity completion on a weekly basis. Activities shall, at a minimum, be grouped by Pay Items and sorted by Early Start Dates. The activity may be a pay item when it is of sufficient detail to meet the definition of the activity. The schedule activities shall also be coded with their corresponding Pay Item ID code.

The Detailed Layout shall be resource loaded by activity to show man-hours by craft (carpenters, laborers, operators, etc.) expected to be utilized for each activity. Activities will also be resource loaded with a breakdown of Pay Item values.

13.2 Monthly Updates:

The Project Schedule shall be updated monthly with the baseline schedule shown as target in each layout.

Approximately five working days prior to the monthly Invoice Cut-off Dates (refer to Part 4 - **Special Terms and Conditions**, Exhibit "5"), the Contractor shall schedule a "progress review meeting" with FDF. The percent complete for each activity will be summarized by Pay Item in the Contractors Project Schedule and shall be the basis for the amount invoiced for that Pay Item. A final copy of the updated Project Schedule, shall be submitted to FDF by the month end cut-off date.

Monthly Project Schedule Update shall include

- Actual or projected start and finish dates
- Activity percent complete and remaining duration
- Bar Chart Schedule comparing the current schedule to the baseline schedule
- Revisions to the craft resource, actual to date and estimate to complete in

man-hours.

13.3 Four Week Schedule:

The Contractor shall develop a rolling schedule which windows four (4) weeks of the Contractor Detailed Layout. This schedule will consist of the past week, present week and the next two weeks to come. The Contractor shall meet with the Fluor Daniel Fernald Construction Scheduler to review/prepare the weekly Four Week Schedule prior to the Weekly or Biweekly Contractor Coordination Meeting throughout the duration of the project. The format is shown in Exhibit "G".

13.4 Contractors Schedule Software

The Contractor is required to use Primavera's P3 software for Windows Version 2.0 to prepare the required project schedules. A computer disk containing the updated project schedule shall be submitted along with the schedule update.

14.0 SUBMITTALS:

- 14.1 Contractor Submittal Register:** The Contractor shall make all submittals as listed in Exhibit "H" or as otherwise specified by this document.
- 14.2** The Contractor shall provide submittals in accordance with General Provisions article A.59 - "Specifications and Drawings", and Part 7 - Administrative Contract Requirements ACR-001.
- 14.3** The Contractor is responsible for making all submittals required to perform the work as specified in this Contract.

END OF PART 6 - STATEMENT OF WORK